Is inhibition in working memory domain-general? A study of age-related decline in cross-domain inhibitory abilities.

10th European Working Memory Symposium

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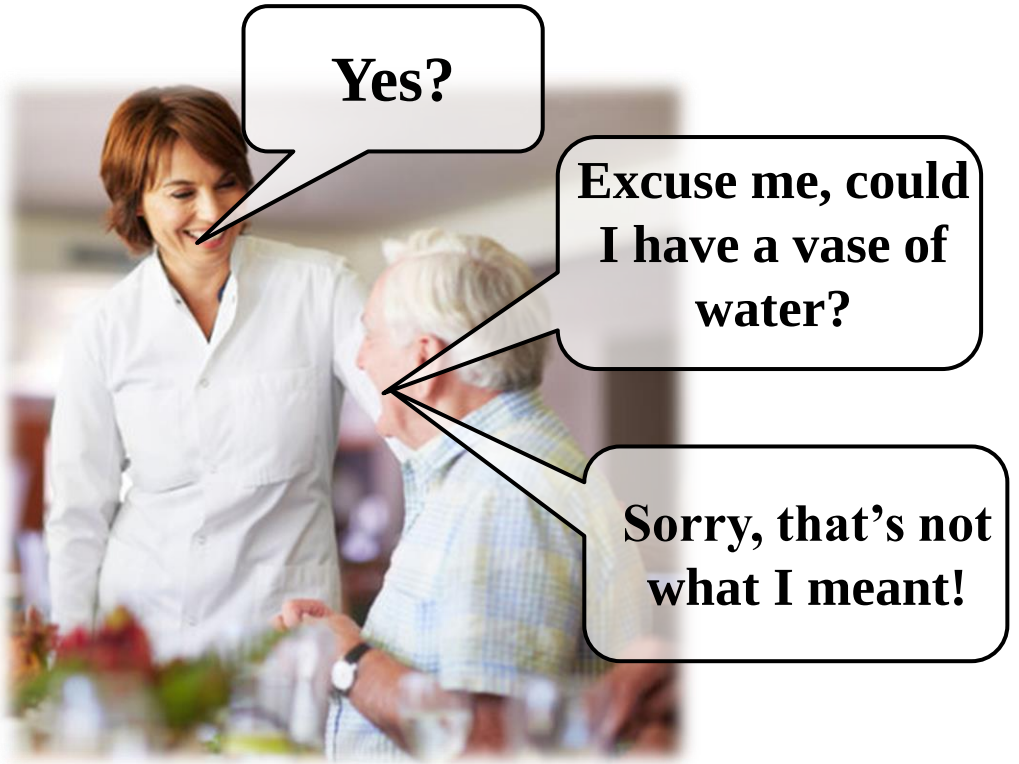
INTRODUCTION

- Cognitive inhibition
- Declines in normal aging
- Declines in some pathologies due to aging



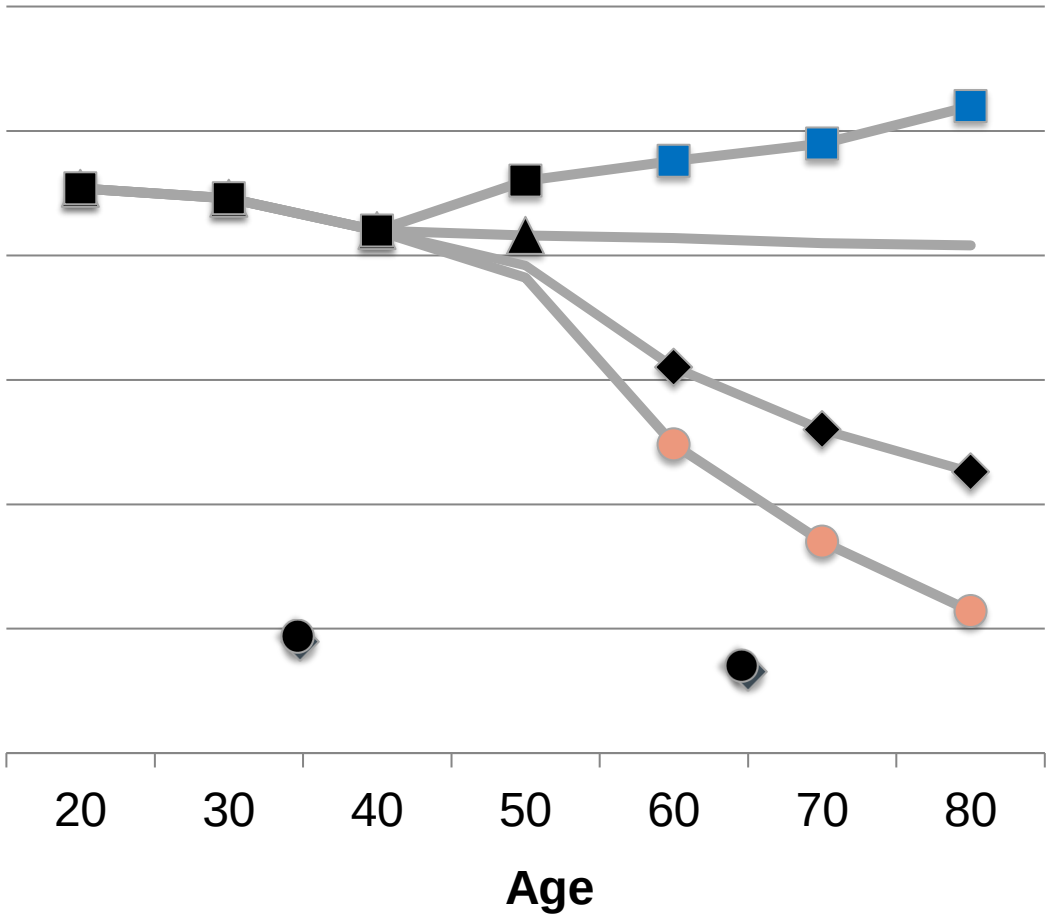
INTRODUCTION

General decrease in inhibitory capacities

versus

Specific decrease in inhibitory capacities

Schematic representation



Rey-Mermet, A., & Gade, M. (2017). Inhibition in aging: What is preserved? What declines? A meta-analysis. *Psychonomic bulletin & review*, 1–22.

AIM

This study examines the specificity of inhibitory control by investigating the age-related decline in inhibitory abilities across several domains (visual, phonological and semantic) in an immediate target-probe matching task.

METHOD > Participants

129 young adults

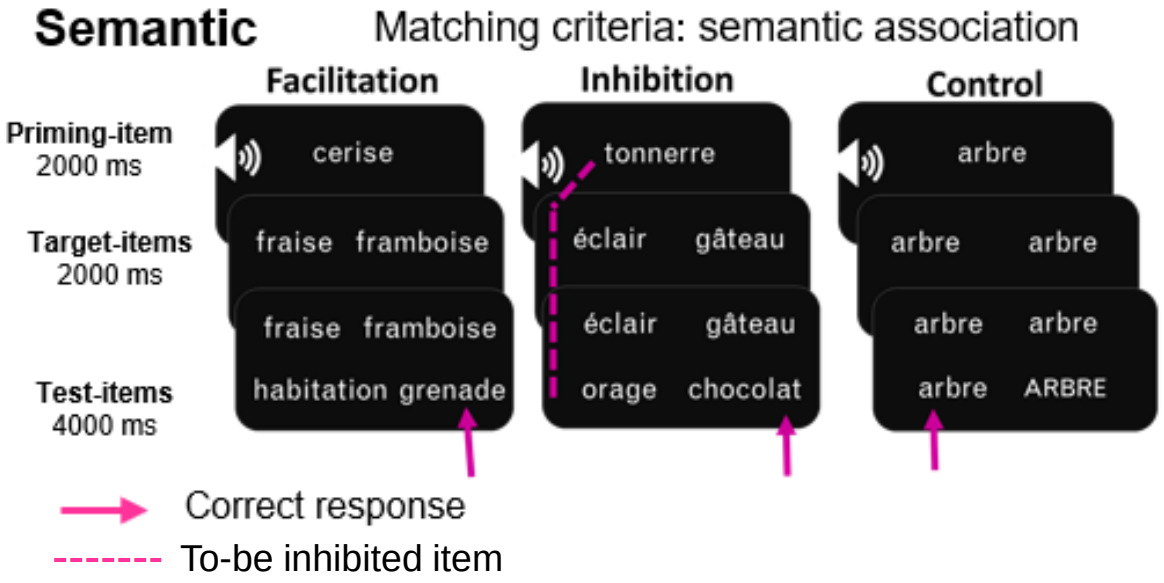
≈ 24 years old

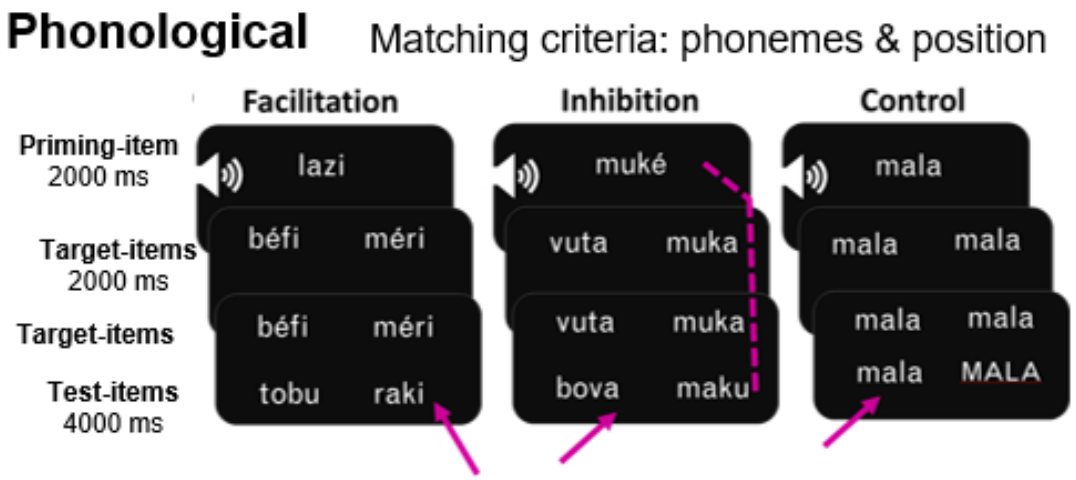
130 older adults

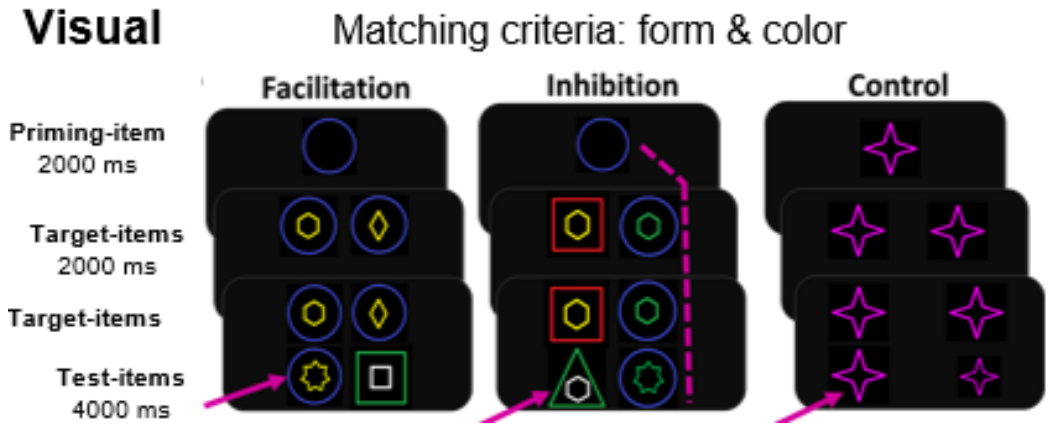
≈ 69 years old
MoCA > 23

METHOD > Immediate target-probe matching task

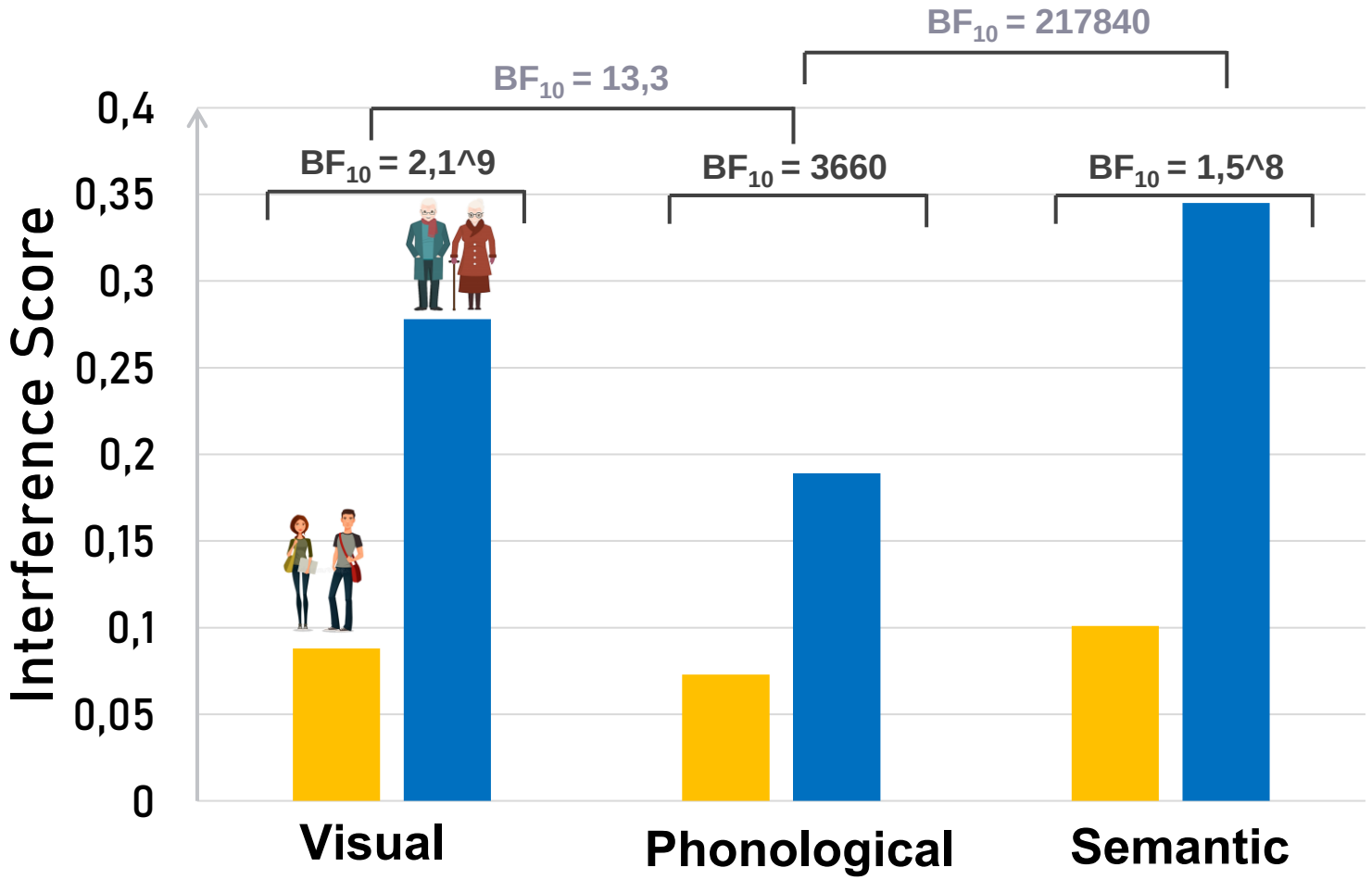
"Which of the items at the lower part of the screen shows the best match with both of the items at the upper part of the screen?"







RESULTS > Accuracy

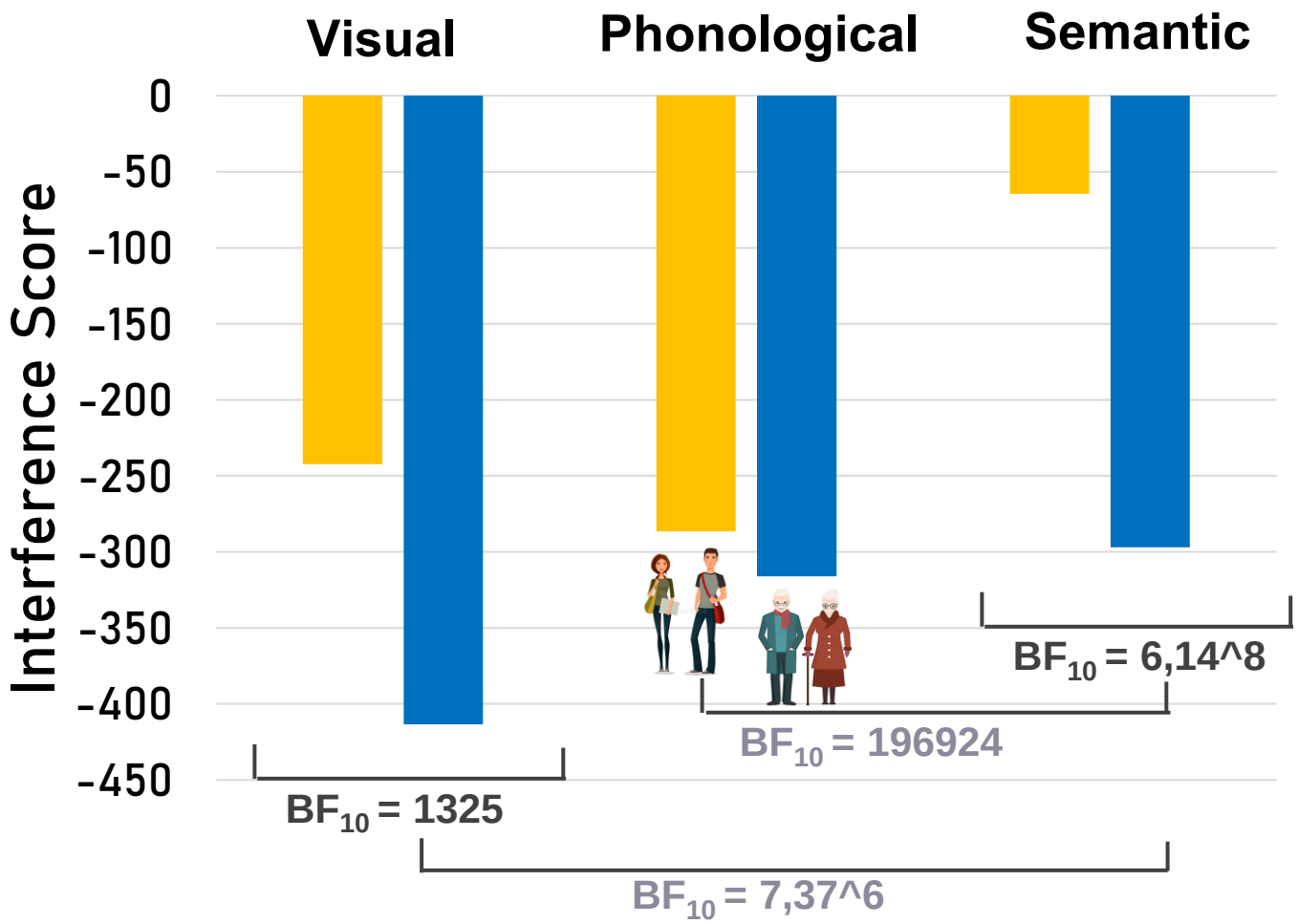


Evidence in favor of a group effect

Evidence in favor of a modality effect

Modalities, BFINCLUSION = 9,35^6
Group, BFINCLUSION = ∞
Modalities*Group, BFINCLUSION = 304,4

RESULTS > Response time (ms)



Evidence in favor of a group effect

Evidence in favor of a modality effect

Modalities, BFINCLUSION = 2,2^10
Group, BFINCLUSION = 2,9^ 9
Modalities*Group, BFINCLUSION = 3063

DISCUSSION & CONCLUSION

Interference ✓

> are more impacted

Domain general inhibition impairment at least for semantic and visual conditions in healthy aging

Particularly increased in the semantic and visual conditions

Differences in task sensitivity ?

Thanks for watching

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